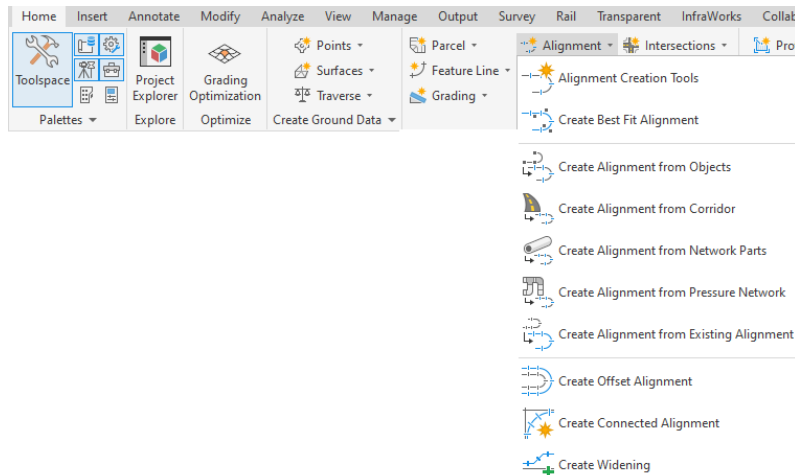


# Corridors

To create a corridor, you must have an alignment (baseline), a profile (existing or proposed), and an assembly. You can also use a feature line for the alignment and profile pairing.

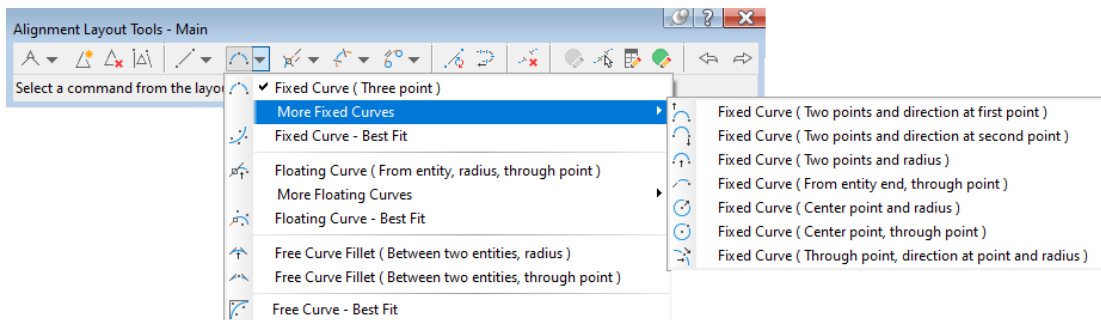
## Alignments

You have 2 choices in defining an alignment from scratch: (1) Home tab > Create Design > Alignment > Alignment Creation Tools, or (2) Home Tab > Create Design > Alignment > Create Alignment From Objects.

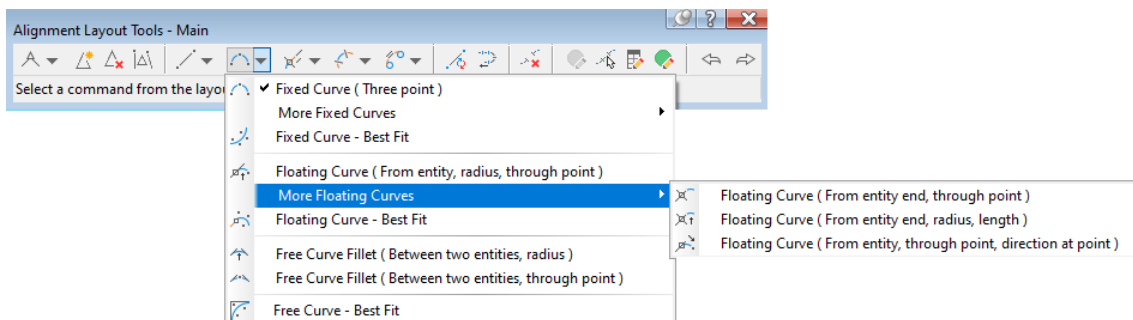


Alignment Creation Tools gives you the constrained based design options. Constrained based design will maintain tangency based on 3 choices:

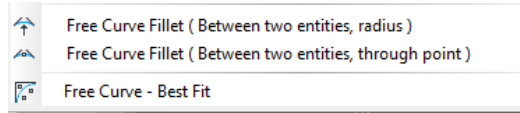
1. Fixed curve - These commands are like an AutoCAD arc but have a third point along the arc.



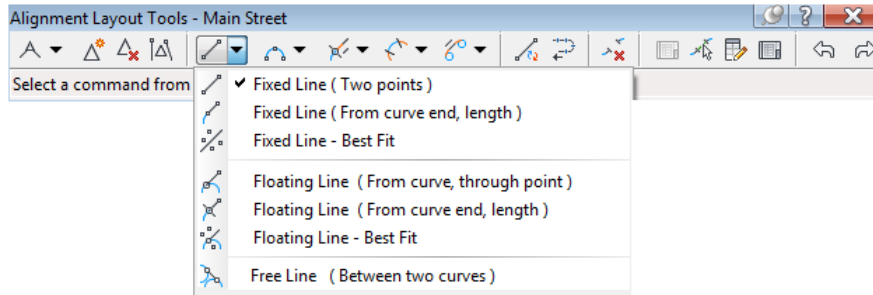
2. Floating Curve – Maintain tangency at the start, while one end is not connected to another object. For example, curves off the end of a line.



- 3. Free Curve - These entity types are very similar to the AutoCAD "fillet" command, but give you added control.

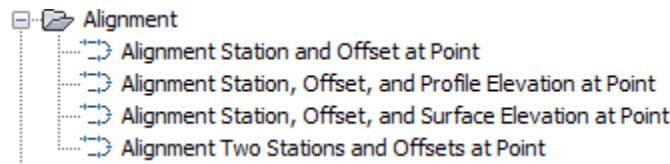


Fixed, free, and floating lines are also available (shown below). Many methods for producing spirals are available, but just not shown in this document.

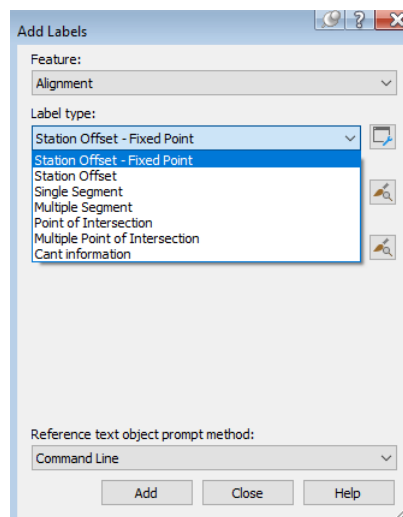


### Listing and Labeling off an Alignment

- **“Analyze” ribbon tab > Inquiry Tool** – Once in the inquiry tool, there are 4 pre-defined listing commands to obtain information from an alignment.

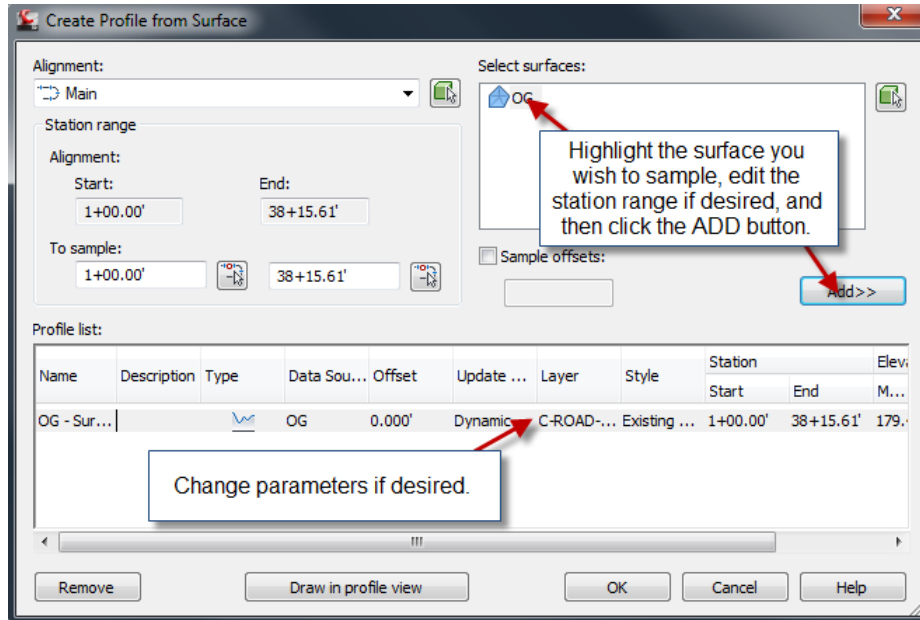


- **“Annotate” ribbon tab > Add Labels > Alignment > Add Alignment Labels** – This command may add labels to offset stations as well as alignment segments.

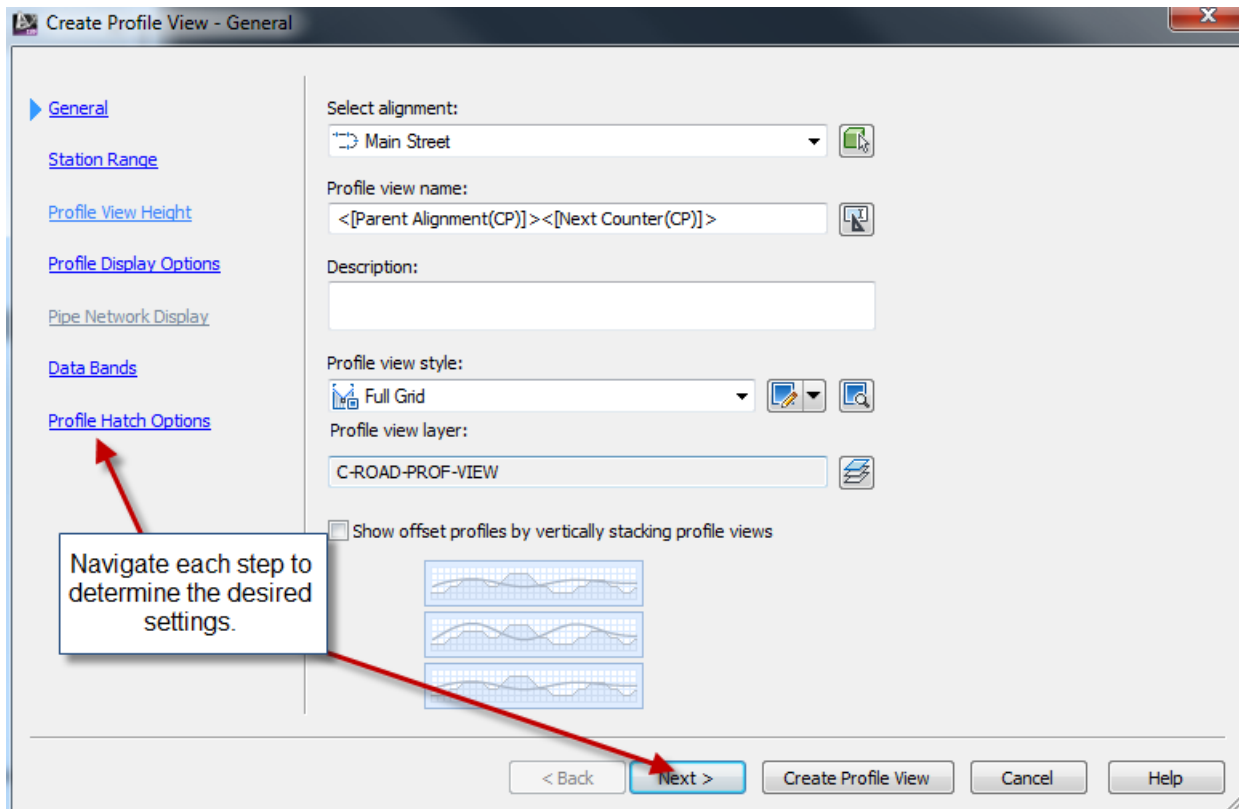


# Existing/Proposed Profiles and Profile Views

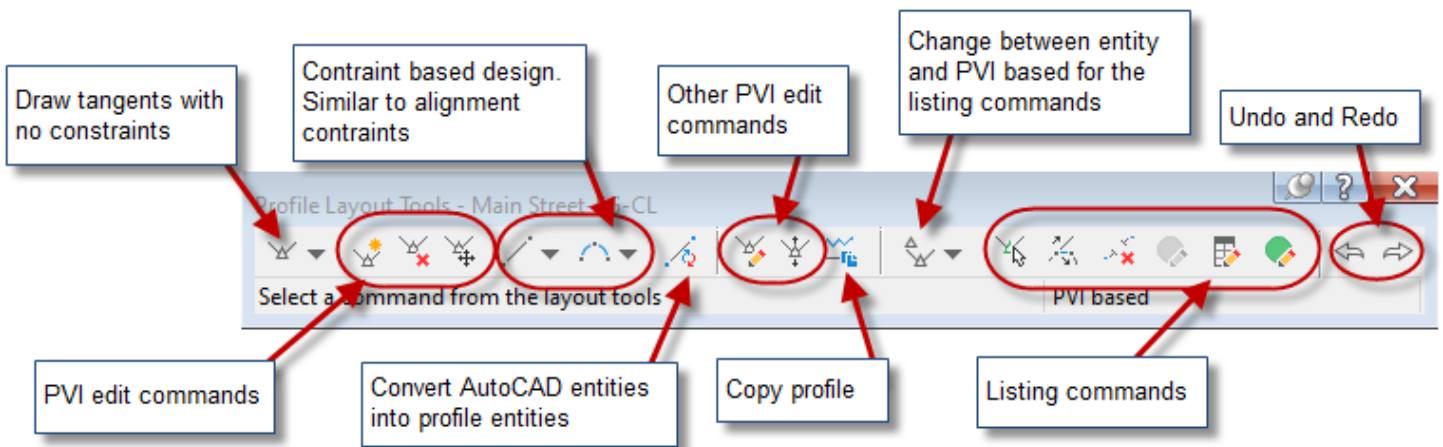
## 1. “Home” ribbon tab > Profile > Create Surface Profile



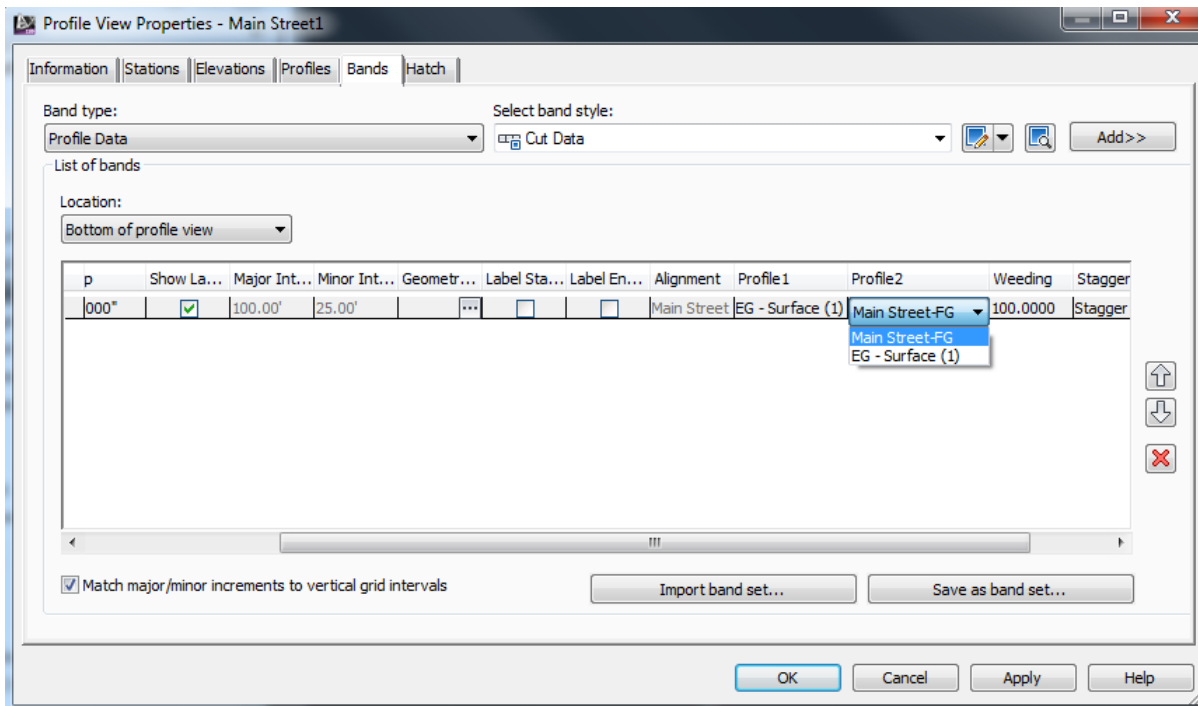
## 2. “Home” ribbon tab > Profile View > Create Profile View



### 3. “Home” ribbon tab > Profile > Profile Creation Tools



4. Profile View Properties, “Bands” tab, Set “Profile 2” to the design profile. (If you use a band style with FG and EG elevations.)



### Listing and Labeling Profiles and Profile Views

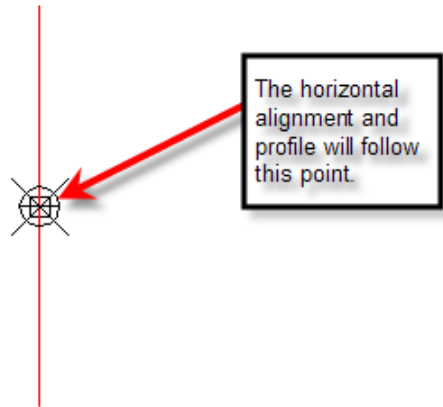
- “Analyze” ribbon tab > Inquiry Tool – There are several listing commands for profiles and profile views.



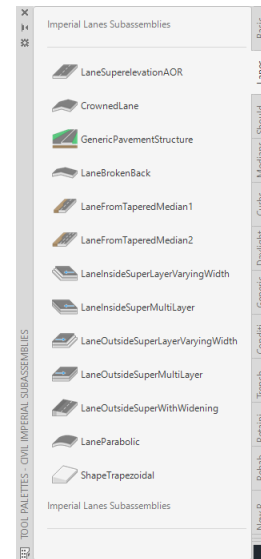
- “Annotate” ribbon tab > All Labels > Profile View > Add Profile View Labels

# Create/Edit Assemblies

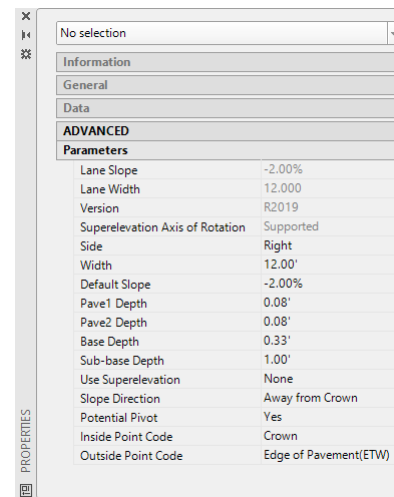
1. **“Home” ribbon tab > Assembly > Create Assembly** – Choose the appropriate styles and place the baseline somewhere in the drawing.



2. **Home tab > Palettes > Tool Palettes** – This displays the tool palettes that contain pre-defined sub-assemblies to be placed on the assembly.



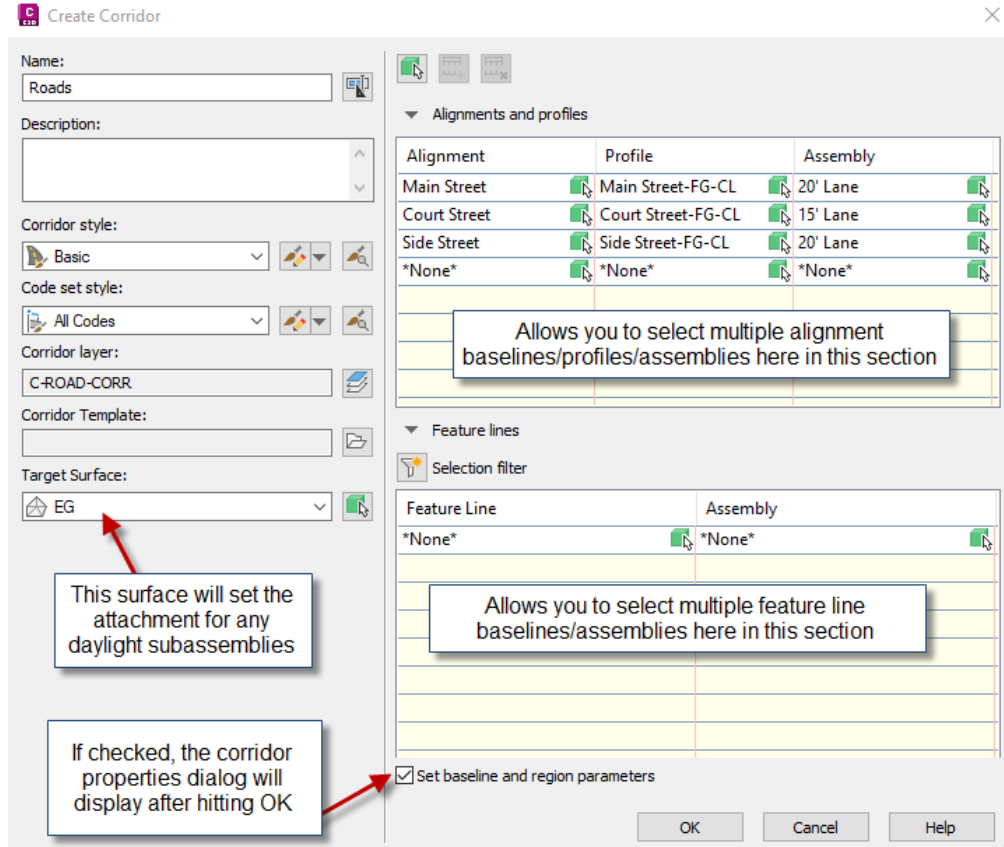
- a. Find the desired subassembly, left-click the tool, fill out the properties, and then choose the attachment point on the assembly. You can also attach the subassembly and edit the parameters later as well.
- b. Rename the subassembly to an appropriate name. This will be important later in the definition of the corridor.



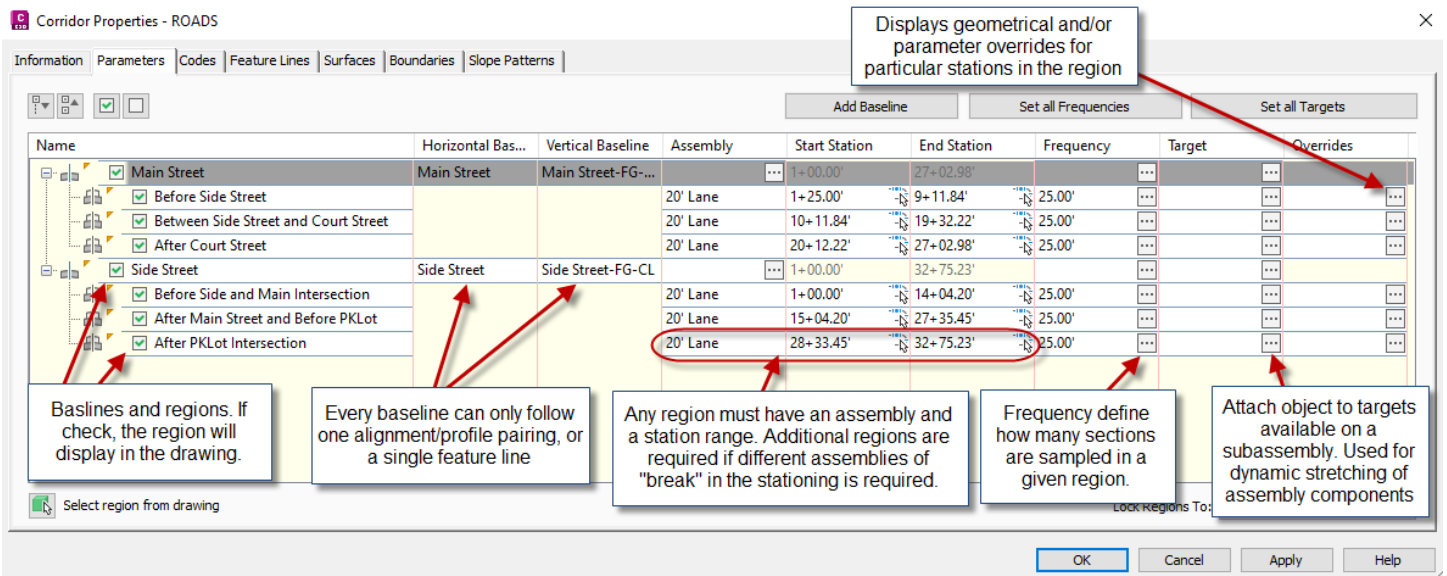
# Create/Edit Corridors

## 3. "Home" ribbon tab > Create Design > Corridor

- a. Choose the horizontal alignment (baseline), then the profile, the assembly, and the target surface in the dialog box (not shown here).



Corridor Properties dialog shown below



Target Mapping dialog shown below

Target Mapping

Corridor Name:  Baseline Start Station:  Baseline End Station:

Offset and Elevation Surface

Subassembly	Baseline	Region	Start Station	End Station	Assembly	Side	Assembly Gr...	Offset	Elevation
AC&AB	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Right	Right	<Set All>	<Set All>
Outside Elevation Target	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Right	Right	<None>	<None>
Width Target	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Right	Right	<None>	<None>
AC&AB	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Left	Left	<Set All>	<Set All>
Outside Elevation Target	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Left	Left	<None>	<None>
Width Target	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Left	Left	BusTurnOut-Ep	<Set All>
SW	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Right	Right	<Set All>	<Set All>
Offset Target of Inside Boulevard Width	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Right	Right	<None>	<None>
Offset Target of Sidewalk Width	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Right	Right	<None>	<None>
Offset Target of Outside Boulevard Width	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Right	Right	<None>	<None>
Target Profile of Slope	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Right	Right	<None>	<None>
SW	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Left	Left	<Set All>	<Set All>
Offset Target of Inside Boulevard Width	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Left	Left	<None>	<None>
Offset Target of Sidewalk Width	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Left	Left	<None>	<None>
Offset Target of Outside Boulevard Width	Main Street	After Court Street	20+12.22	27+02.98	20' Lane	Left	Left	<None>	<None>

Set Offset Targets

Filter offset range: 0 - 0.00'

Select alignment and pipe to target:

<input type="checkbox"/>	Name	Side
<input type="checkbox"/>	Main Street	No Side
<input type="checkbox"/>	Side Street	No Side
<input type="checkbox"/>	Court Street	No Side
<input type="checkbox"/>	Main Street-Left-20.000	Left

Selection choice if multiple entities:  
 Target to Nearest Offset  
 Use targets on the same side as the subassembly

Use this side to attach alignments and pipe targets

Select feature lines, polylines, and survey figures to target:

<input type="checkbox"/>	Name	In-use/Total	Detail
<input checked="" type="checkbox"/>	C-TOPO-FEAT	1/1	...
<input type="checkbox"/>	CorridorsBase CL	0/3	...
<input type="checkbox"/>	CorridorsBase EP	0/8	...
<input type="checkbox"/>	CorridorsBase LOTS	0/1	...

This section is feature lines/polylines/survey figure targets

Horizontal Stretching

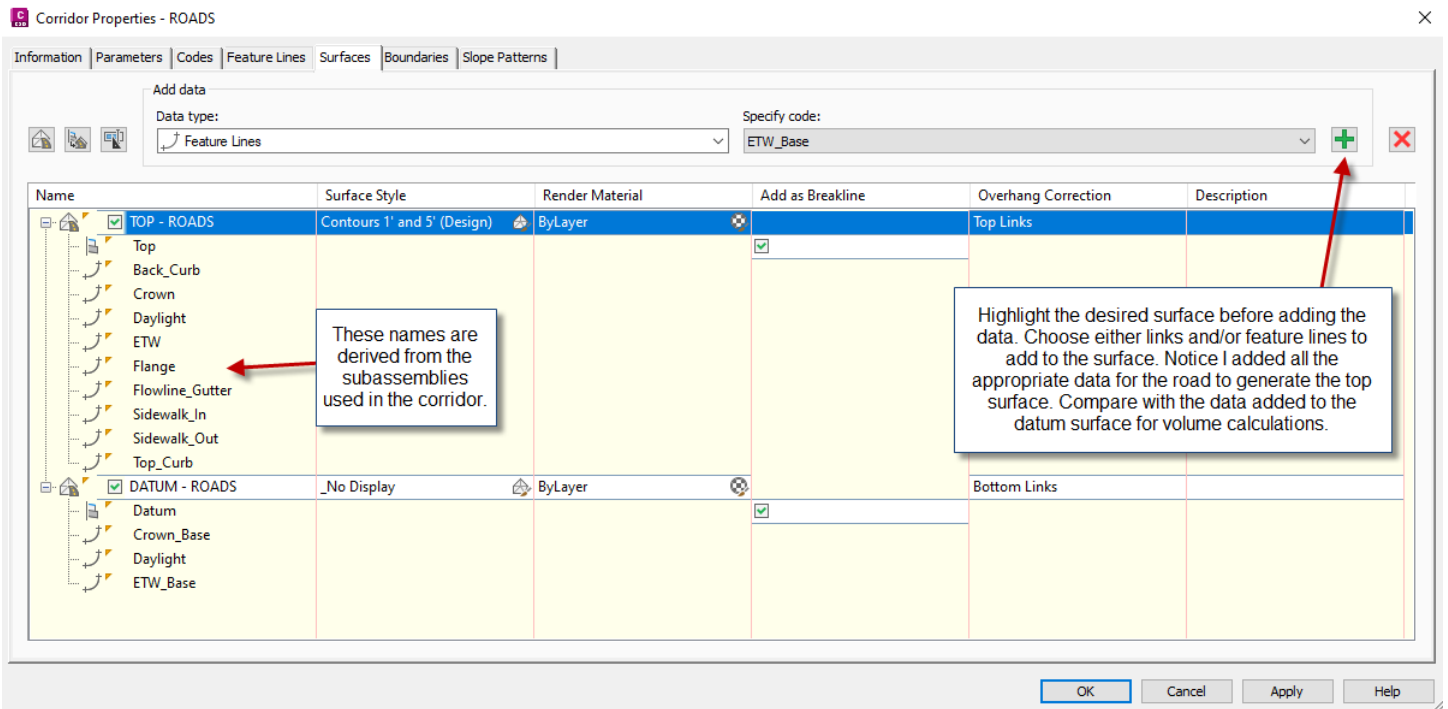
Vertical Stretching

Highlight row to determine attachments

Rebuild corridor  OK Cancel Apply

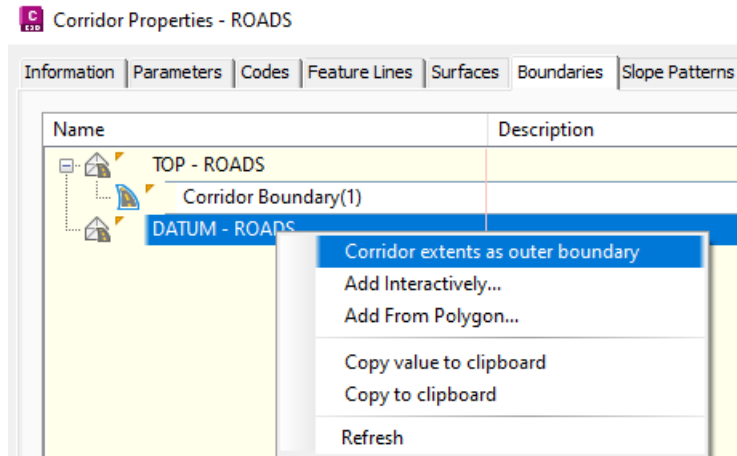
#### 4. Create Corridor Surfaces (Within Corridor Properties)

Surfaces can be used to create the finished surface as well as calculate volumes. Typically, the top surface will become the finished ground surface while the datum surface will become the volume calculation surface. See the manual for further details.



#### 5. Add a Boundary to the Corridor Surface

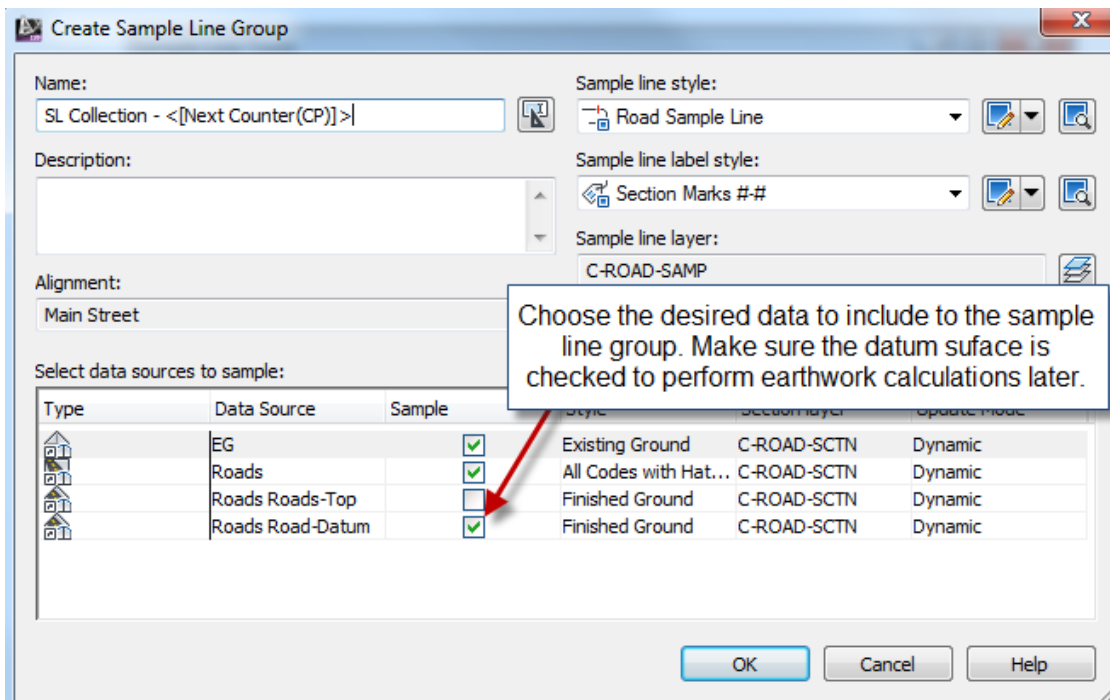
Typically, “Corridor extents as outer boundary” will be used. You can use a polyline drawn in or interactively trace the corridor feature lines to determine the boundary.



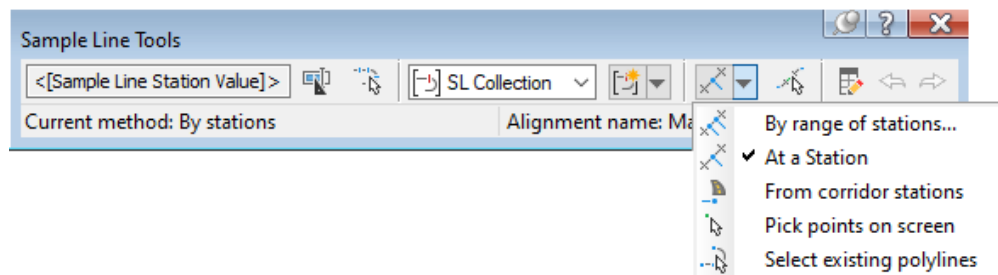
## Sections

Sections are used for 2 things: (1) Plotting sections at desired stations, and (2) Calculating the volumes from a corridor. To accomplish the later, you must have added a corridor surface to represent the datum surface before sampling the sections.

### 1. “Home” ribbon tab > Sample Lines



Next to appear is the “Sample Line Tools” dialog box. See below for further explanation.



# Calculate Volumes

There are two (2) types of volumes you can extract from a corridor: (1) cut and fill; (2) quantity of material.

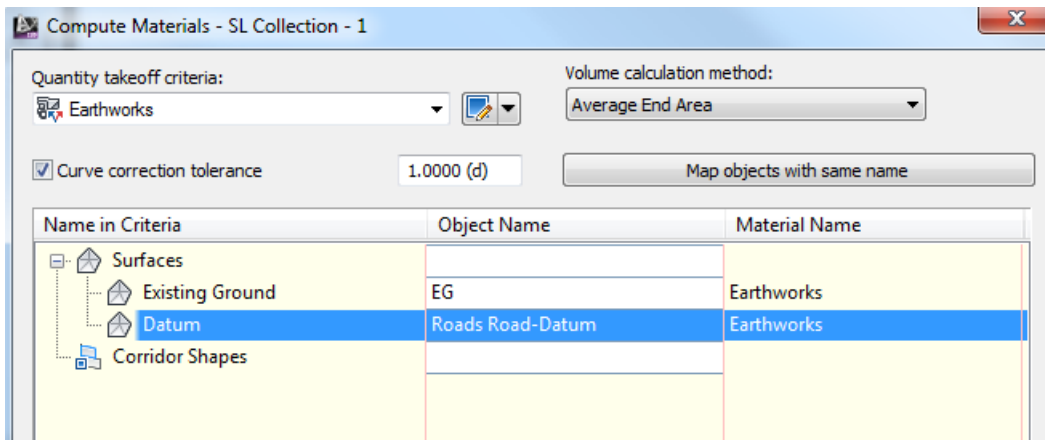
## Cut and Fill

After creating the datum surface in corridor properties, you can simply use the volumes dashboard to see the volumes. This is further explained in the Grading cheat sheet.

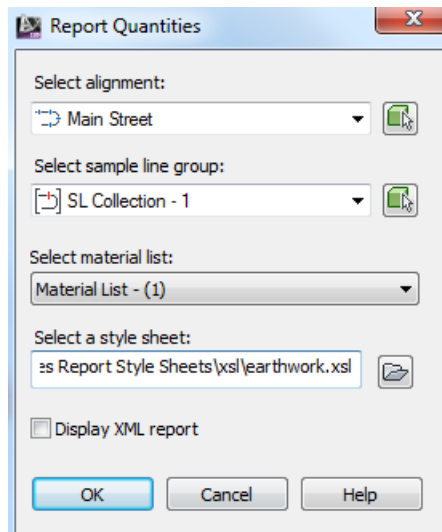
“Analyze” ribbon tab > Volumes Dashboard

## Calculating volumes based on station ranges. (Cut and Fill)

### 1. “Analyze” ribbon tab > Compute Materials

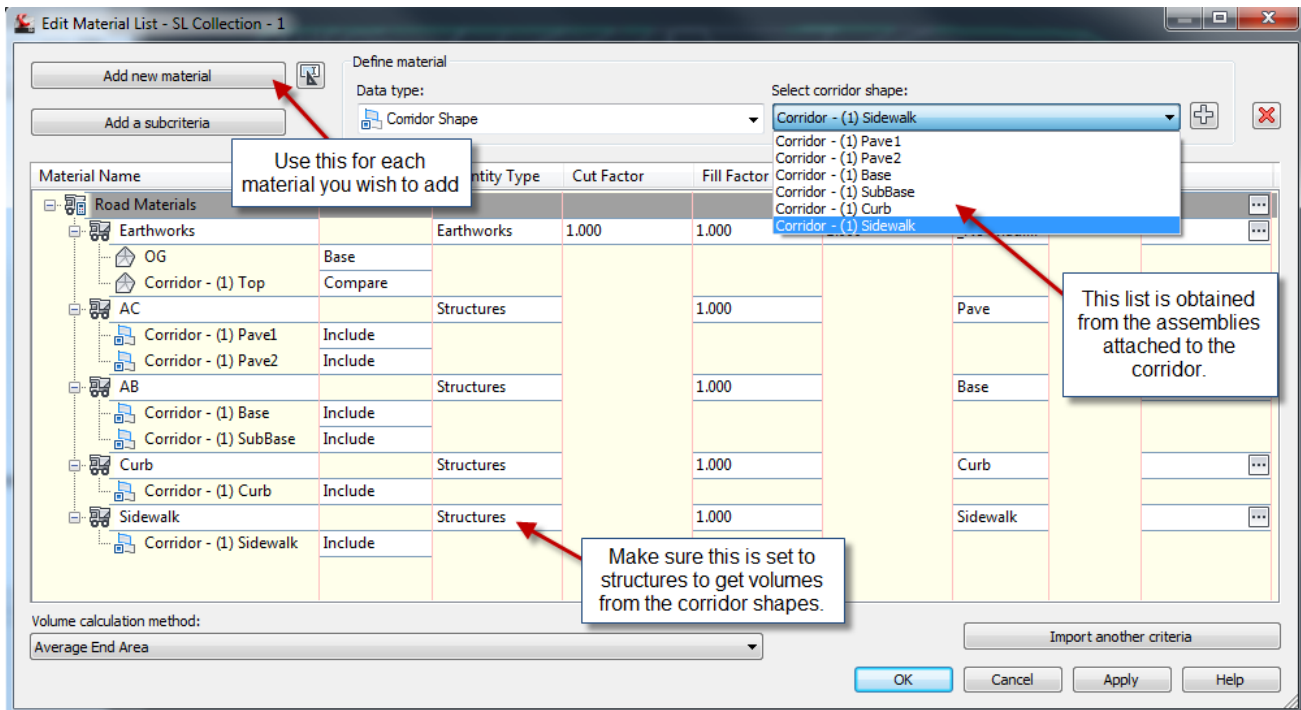


### 2. “Analyze” ribbon tab > Volume Report

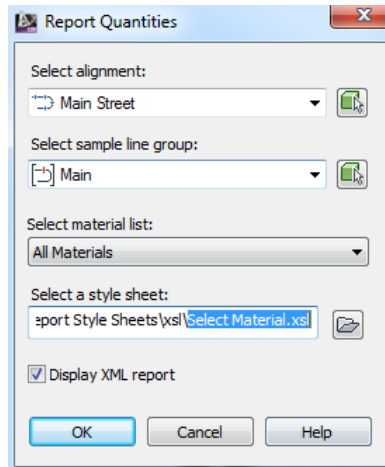


Calculating volumes based on station ranges. (Quantity of Material)

## 1. “Analyze” ribbon tab > Compute Materials



## 2. “Analyze” ribbon tab > Volume Report



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